

UTS600 Series Universal Trap Test Valve Station

Installation Operation & Maintenance Manual



428 Jones Boulevard
Limerick Airport Business Center
Pottstown, PA 19464

Phone: (610)495-5131
Fax: (610)495-5134
www.watsonmcdaniel.com

UTS600 Specifications

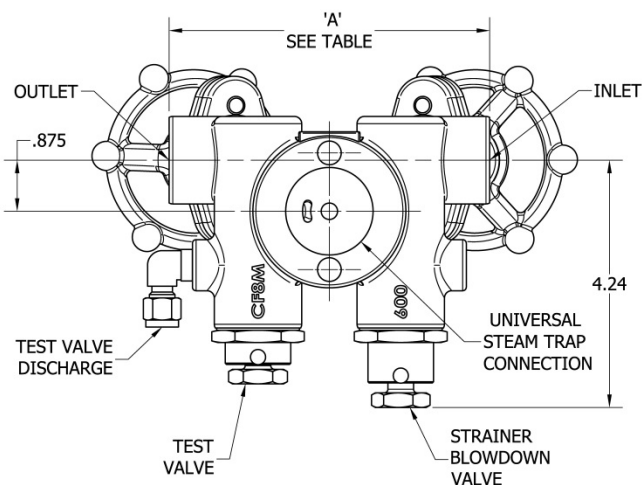


Figure 1: UTS600 Side View

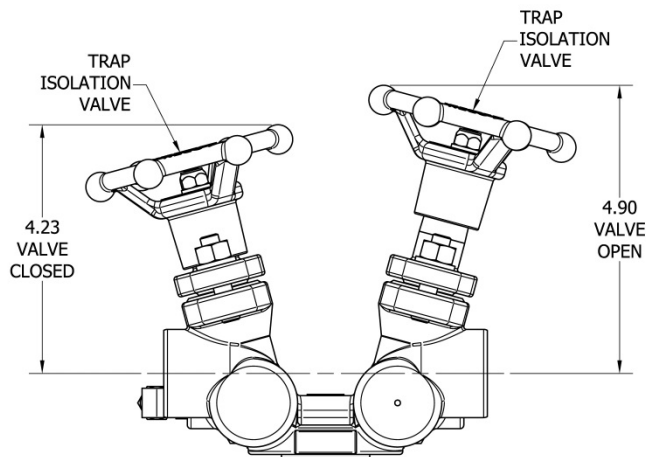


Figure 2: UTS600 Top View

PRESSURE-TEMPERATURE RATINGS	
PMO Max operating Pressure	up to 600 PSIG*
TMO Max Operating Temperature	TMO of Trap*
PMA Max Allowable Pressure	1440 PSIG @ 100°F
TMA Max Allowable Temperature	800°F @ 845 PSIG

* Dependent on Trap Module Selection

DIMENSIONS (inches)		
Size	Connection	'A'
1/2"	NPT	5.50
1/2"	SW	5.50
1/2"	FLG	12.00
3/4"	NPT	5.50
3/4"	SW	5.50
3/4"	FLG	12.00
1"	NPT	8.25
1"	SW	8.25
1"	FLG	12.00

UTS600 Universal Connector Trap Test Station is used with the following Watson McDaniel trap modules:



UTD450



UTD450SM &
UTD600LSM



UT450



UFT450



USIB450



UB450

Each Watson McDaniel Company Product is warranted against defects in material and workmanship for one year from date of shipment. This warranty extends to the first retail purchaser only. All defective material must be returned to the person from whom you purchased the Product, transportation prepaid, free of any liens or encumbrances, and if found to be defective will be repaired free of charge or replaced, at the warrantor's or seller's option. If the material is replaced, any replacement will be invoiced in the usual manner and after inspection of alleged defective material an adjustment will be made for depreciation caused by purchaser's use. In no event will Watson McDaniel Company be liable to do more than refund the original contract price. Incidental and consequential damages are excluded, whether under this warranty or otherwise. All implied warranties, including warranties of merchantability and fitness for a particular purpose, are disclaimed and excluded.

Principle of Operation

The UTS600 Series Universal Connector Trap Test Valve Station has a two-bolt 360 degree swivel mount flange design, integral piston-style isolation valves, test valve, and integral strainer and blowdown valve.

1. Universal Connector Trap Test Station will be in normal operation when both the inlet and outlet isolation valve are in the open position and the blowdown valve and test valve are in the closed position.
2. To test the trap during normal operation, open the test valve and close the outlet isolation valve. When opening test valve, hold test valve body in place with wrench while opening valve head.
3. To return Trap Station to normal operation, open the outlet isolation valve and close the test valve.

Caution: Hot condensate and flash steam will be discharged from the test port. Pipe test valve to make sure it will discharge to a safe area.

Installation

1. Make sure steam supply is safely shut off. Before installing the universal connector trap station, blow out piping thoroughly to remove loose scale and dirt.
2. The trap station can be installed in horizontal or vertical piping.
3. Use pipe dope or Teflon tape sparingly when attaching the universal connector trap station to the pipe. Tighten bolts evenly with 35-40 ft-lbs torque.
4. Pipe test port to ensure any condensate and steam will discharge to safe location.
5. Install drip pocket to keep dirt away from the trap station.
6. Mount selected universal trap to the trap station. Ensure that the trap is mounted in the proper orientation for operation. Refer to trap installation and operation manual for trap installation detail.

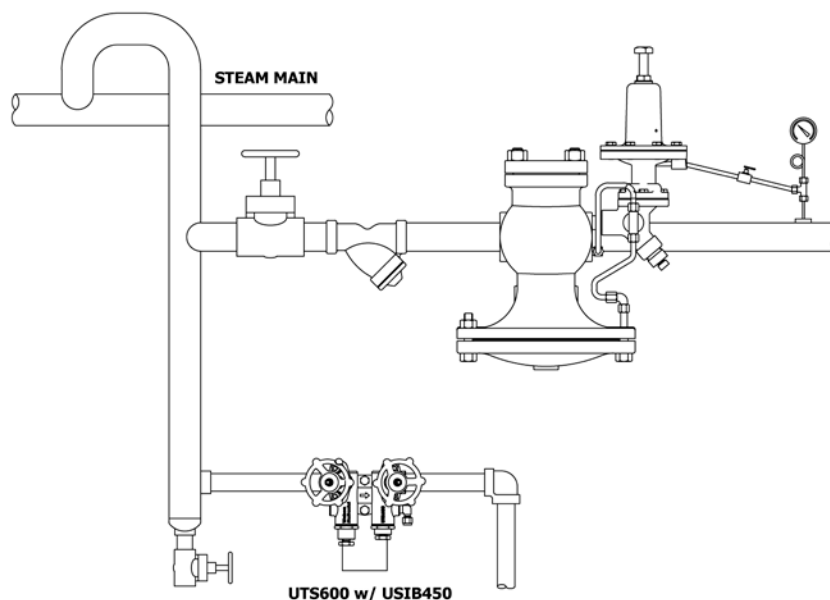


Figure 3: UTS600 with USIB450 Trap Module installed in Drip Leg before PRV.

Start-Up

1. Upon start-up, the blowdown valve should be in the open position. Outlet isolation valve and test valve should be in the closed position. When opening blowdown valve, hold blowdown valve body in place with wrench while opening valve head.
2. Open the inlet isolation valve to blowdown and purge the trap station.
3. Once the trap station is blown down, close blowdown valve.
4. Open outlet isolation valve. Trap station is now in operation.

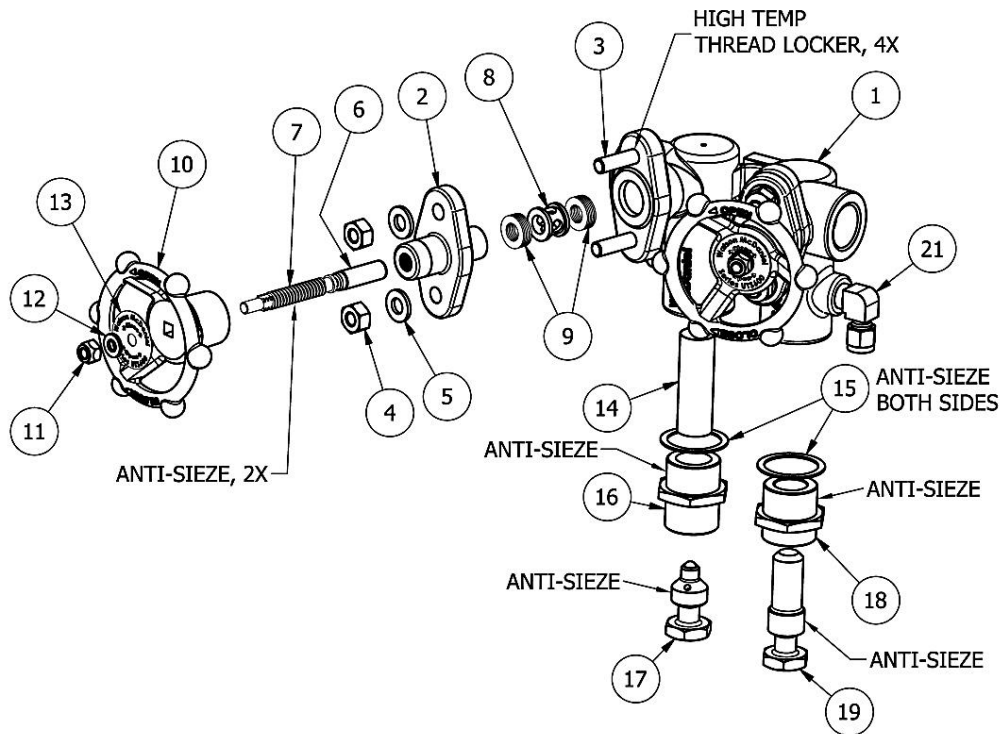
Maintenance

1. To clean strainer, open blowdown valve to clear any debris. When opening blowdown valve, hold blowdown valve body in place with wrench while opening valve head.
2. To test the trap for proper operation, open the test valve during normal operation and close the outlet isolation valve. Observe the discharge from the test valve. If condensate and flash steam is discharging, trap is working properly. If live steam is present, trap may be failed open. If no condensate is present, trap may be failed closed. Replace trap module if necessary. Do not remove trap until pressure is relieved and trap is cool. Refer to trap installation and operation manual for further trap operation detail.
3. If trap module needs to be removed, isolate the trap by closing the inlet and outlet isolation valves. Open the blowdown valve and test valve to relieve the pressure and drain any condensate. Once pressure is relieved and trap is cool, the trap can now be removed and replaced.

Note: When opening blowdown and test valve, hold the valve body in place at the base, with a wrench, while opening valve head.

MATERIALS		
ITEM	PART	MATERIAL
1	Connector Body	Stainless Steel, ATSM A351 CF8M
2	Bonnet	Stainless Steel, ATSM A351 CF8M
3	Bonnet Studs	A193 Grade B7
4	Bonnet Nuts	A194 Grade 2H
5	Washers	Stainless Steel
6	Valve Piston	416 Stainless Steel
7	Valve Stem	416 Stainless Steel
8	Lantern Bushing	416 Stainless Steel
9	Valve Rings	Graphite and Stainless Steel
10	Handwheel	Ductile Iron
11	Nut	Stainless Steel
12	Washers	Stainless Steel
13	Nametag	Stainless Steel
14	Strainer Screen	304 Stainless Steel
15	Gasket	Copper
16	Blowdown Body	303 Stainless Steel
17	Blowdown Stem	303 Stainless Steel
18	Test Valve Body	303 Stainless Steel
19	Test Valve Stem	303 Stainless Steel
20	Drive Pin	Stainless Steel
21	Elbow, 1/4 NPT x 1/4 Comp	316 Stainless Steel

Troubleshooting and Repair of Trap Test Valve



1. If isolation valve is leaking when valve is closed, make sure the valve is fully closed. If valve is still leaking, tighten bonnet nuts (4) to compress valve rings (9). If valve continues to leak, replace the valve rings and bonnet assembly (2, 4).
2. Before replacing isolation valve and components, the Trap Test Station must be separately isolated upstream and downstream.
3. Open the inlet and outlet isolation valves on the Trap Test Station. Open the blowdown valve to remove any pressure in the piping.
4. Loosen and remove bonnet nuts (4) and washers (5). Pull the bonnet assembly (2) off the valve body.
5. Remove the valve rings (9) and lantern bushing (8). Inspect and clean and dirt and debris on valve body.

A. Replacing valve rings

6. Remove bonnet nuts (4) using $\frac{1}{2}$ " wrench. Loosen nuts evenly until fully removed. Remove washers (5).
7. Remove valve rings (9) and lantern bushing (8).
8. Clean metal seating surface on valve body and underside of bonnet of any dirt debris. Clean inside of valve body where valve rings and lantern bushing sit.
9. Insert 1 set of new valve rings into connector body (1).
10. Insert new lantern bushing on top of valve rings.
11. Insert 1 set of new valve rings on top of lantern bushing.
12. Reinstall bonnet assembly onto connector body. Place washer (5) and nuts (4) and tighten evenly until bonnet seats against the valve body.
13. Close inlet valve before bring back into operation. Refer to start up section when bringing trap back into operation.

B. Replacing valve stem

1. Remove hand wheel nut (11), washer (12) and nametag (13). Remove hand wheel (10).
2. Remove bonnet nuts (4) using ½" wrench. Loosen nuts evenly until fully removed. Remove washers (5).
3. Valve rings and lantern bushing may stay in place in valve body.
4. Clean metal seating surface on valve body and underside of bonnet of any dirt debris.
5. Unthread valve stem from the underside of the bonnet.
6. Apply anti seize compound onto valve stem threads and thread stem into bonnet from the underside. The smooth end of valve stem will be on the bottom of the bonnet. (underside of bonnet will have a raised face)
7. Place bonnet (2) onto bonnet studs (3) on valve body. Install washers (5) and bonnet nuts (4) and tighten evenly until bonnet seats on the valve body.
8. Place hand wheel onto valve stem making sure hand wheel is engaged with the valve stem.
9. Place name tag (13) then washer (12) then locknut (11) and fully tighten to secure hand wheel to valve stem.
10. Close inlet valve before bring back into operation. Refer to start up section when bringing trap back into operation.

C. Replacing Blowdown and Test valves

1. Remove blowdown valve body (16) using 7/8" wrench, gasket (15) and internal strainer screen (14).
2. Apply anti-seize to new blowdown valve body threads as well as the surface where the gasket will sit.
3. Place gasket (15) onto blowdown valve body and apply anti-seize to top of gasket.
4. Insert strainer screen and thread blowdown valve body into connector body. For left to right flow trap station, blowdown valve is located on the left side of the connector body.
5. Close blowdown valve before bringing back into operation. Refer to start up section when bringing trap back into operation.
6. Remove test valve body (18) using 7/8" wrench and gasket (15).
7. Apply anti-seize to new test valve body threads as well as the surface where the gasket will sit.
8. Place gasket (15) onto test valve body and apply anti-seize to top of gasket.
9. Thread test valve body into connector body. For left to right flow trap station, test valve is located on the right side of the connector body.
10. Close test valve before bringing back into operation. Refer to start up section when bringing trap back into operation.